TECHNIA SIMULATION CENTRE OF EXCELLENCE

TECHNIA Simulation Centre of Excellence (SCoE) provides top tier FEA, Non-linear, and Advanced Simulation Software, Training and Consultancy. Our dedicated team, of more than 30 Simulation experts across 14 countries, advise and support your innovation with a wealth of specialist knowledge and experience.

SIMULIA FEA SOFTWARE

SIMULATION CONSULTANCY

TRAINING COURSES

COMMUNITY OF EXPERTS

SIMULIA FEA SOFTWARE
Providing the software that enables the accurate simulation of complex behaviour.

TECHNIA Simulation Centre of Excellence provides high-end Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) Software from Dassault Systemes SIMULIA Portfolio of products, including Abaqus, Tosca, fe-safe, Isight, XFLOW CFD, CST, Opera, Dymola, SIMPACK & 3DEXPERIENCE Simulation roles.
In addition, TECHNIA Simulation Centre of Excellence develops BRIGADE, a leading software suite for analysis and design of bridge structures.

The SIMULIA portfolio is focussed on providing realistic simulations with complex combined behaviours, through stand-alone applications or fully integrated simulation roles in the 3DEXPERIENCE Platform.

The 3DEXPERIENCE Simulation applications accelerate the evaluation and improvement of overall product performance with multiple available simulation roles dedicated for designers & simulation specialists.

With SIMULIA FEA software you can realistically analyse:

FEA and Multiphysics
- Linear and non-linear
- Coupled physics: structural acoustics, thermal-electrical, and more
- Electromagnetics and smoothed particle hydrodynamics

Complex Materials
- Rubbers, thermo-plastics, powder metals, human tissue, soil, composites, concrete and more

Computational Fluid Dynamics
- External Flows
- Internal Flows
- Free-surface
- Fluid - Structure - Interaction
- Thermal analysis including natural convection
- Mixing Liquids & gasses
- Rotation devices - Turbos, pumps, etc

High-Performance Computing
- Scaling from 1 to 256 cores for rapid turnaround and largescale analyses. Cloud computing & high performance visualisation on the cloud available in the 3DEXPERIENCE Platform

Contact, Fracture and Failure
- Crack growth prediction with XFEM, and impact, droptest and crash analysis with the explicit solver using general contact

Complex Assemblies
- Flexible multibody dynamics, controls and joint behaviour

Model Preparation end Results Interpretation
- Simplify and change model designs, heal invalid geometry, and optimize for best mesh practices. Interpret results, automate postprocessing with usage of Python scripting

SIMULATION CONSULTANCY

Let our team of expert consultants solve your R&D challenges for you.

We provide a clear route through your structural or CFD challenges. With long and wide ranging experience with complex FEA simulation and analysis, the TECHNIA Simulation Centre of Excellence offers extensive experience in high level analysis to solve challenging real world problems in the most demanding industries.

During the project, we make sure the customer understands the why, how and what behind the solution.

With TECHNIA SCoE consultancy services, you will receive:

Realistic simulation
All simulations are run using the SIMULIA range of products, known for providing realistic results to challenging engineering problems.
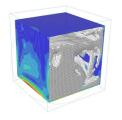
Feedback of simulation results
The value of simulation results is enhanced by the process of interpretation and model review. By including the customer in this process the impact and value of the work is enhanced.
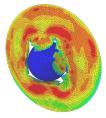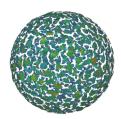
Report with simulation results
Generating impactful graphics and animations is an essential part of the service offering. These are preserved according to our certified ISO 9001 processes.
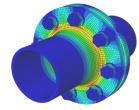
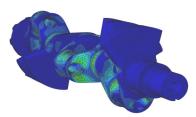**Files for further optimisation**
All model files, scripts and output data can be accessed by customers for their own studies.

TRAINING COURSES

Learn methods, Abaqus software and scripting skills you can use today to solve complex situations.

TECHNIA Simulation Centre of Excellence offers a wide range of Abaqus training courses. From introduction courses to advanced and industry specific.

The training consists of theory, trainer examples and clear workshops to reinforce what was taught. Both Systèmes' SIMULIA and TECHNIA generated training course material is used and handed out to assist your learning path.

Examples of advanced & industry specific courses include:

- Abaqus/CAE Geometry Import & Meshing
- Abaqus/Explicit: Advanced Topics
- Advanced Abaqus Scripting
- Analysis of Composite Materials with Abaqus
- Buckling, Post Buckling & Collapse Analysis with Abaqus
- Abaqus for Offshore Analysis
- Modelling Fracture & Failure with Abaqus
- Modelling Rubber and Viscoelasticity with Abaqus

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EXPERIENCE MATTERS

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